

REMARKS/ARGUMENTS

This submission accompanies an RCE and serves as a further response to the Final Rejection dated September 5, 2007 and Advisory Action dated December 14, 2007. A Petition for Extension of Time (two months) and the fee therefor are submitted herewith. Reconsideration is requested in view of the amendments to the claims herein and the following remarks.

Regarding claims 1-5, a substrate processing apparatus of claim 1 comprises a first transport mechanism, a second transport mechanism, a third transport mechanism and a fourth transport mechanism.

Since the first transport mechanism holds a substrate when the substrate is carried in and out, it is important to keep the contacting part clean, where the first transport mechanism contacts with the substrate.

To this end, the third transport mechanism of claim 1 serves “to receive substrates prior to the liquid chemical process from said first transport mechanism and to carry substrates from said position above first processing chamber to said liquid chemical processing part through said first opening, then to transfer substrates being liquid chemical processed to said second transport mechanism”, and the fourth transport mechanism of claim 1 is configured “to receive substrates from said second transport mechanism, to sequentially carry substrates to said pure water processing part and said dry processing part, to carry substrates being dry processed to said position above said second processing chamber through said second opening, and then to transfer substrates to said first transport mechanism”.

With the substrate processing apparatus of claim 1, the substrates are transferred, prior to the liquid chemical process (the substrates in dry condition), from the first transport mechanism to the third transport mechanism, and the substrates being dry processed are transferred from the fourth transport mechanism to the first transport mechanism. This means that the first transport mechanism does not hold substrates with liquid chemical or pure water. Thus, adherence of liquid chemical and pure water to the first transport mechanism is prevented, and the first transport mechanism is can be kept clean. Also, prevention of adherence of liquid chemical and pure water also prevents adherence of particles to the first transport mechanism.

Hasegawa Koji discloses a transport mechanism 9 which is movable towards the position of plural processing chambers 12-15. This transport mechanism 9 of Hasegawa Koji receives a substrate 2 in a wet condition from lifter equipment 31. It seems that the transport mechanism 9 cannot be kept in clean condition, unlike the present invention, because liquid such as pure water adheres to the transport mechanism 9 of Hasegawa Koji.

In Shinbara and Takano, a transport mechanism corresponding to the “first transport mechanism” of the present invention is not disclosed, nor mentioned. Therefore, a structure to keep the “first transport mechanism” in clean condition does not disclosed nor mentioned, nor suggested by the prior art.

Regarding claims 6-10, the substrate processing apparatus of claim 6 comprises a first transport mechanism and a second transport mechanism.

Since the first transport mechanism holds the substrate when the substrate is carried in and out, it is important to keep the contacting part clean, i.e., the location where the first transport mechanism contacts the substrate should not be contaminated.

Thus, the second transport mechanism of claim 6 serves to “to receive substrates prior to the liquid chemical process from said first transport mechanism, to carry substrates from said position above first processing chamber to said liquid chemical processing part through said first opening, to carry substrates being liquid chemical processed to said second processing chamber through said third opening, to sequentially carry substrates to said pure water processing part and said dry processing part, to carry substrates being dry processed to said position above said second processing chamber through said second opening, and also to transfer substrates to said first transport mechanism”.

With the substrate processing apparatus of claim 6, the substrates are transferred, prior to the liquid chemical process (the substrates in dry condition), from the first transport mechanism to the second transport mechanism, and the substrates being dry processed are transferred from the second transport mechanism to the first transport mechanism. This means that the first transport mechanism does not contact any substrate with liquid chemical or pure water thereon. Thus, adherence of liquid chemical and pure water to the first transport mechanism is prevented, and the

first transport mechanism is kept clean. Also, preventing adherence of liquid chemical and pure water also averts particles from adhering to the first transport mechanism.

Hasegawa Koji discloses a transport mechanism 9 which is movable towards plural processing chambers 12-15. This transport mechanism 9 of Hasegawa Koji receives a substrate 2 in a wet condition from lifter equipment 31. Thus, the transport mechanism 9 cannot be kept clean, unlike the present invention, because liquid such as pure water adheres to the transport mechanism 9 of Hasegawa Koji.

In Shinbara and Takano, a transport mechanism corresponding to the “first transport mechanism” of the present invention is not disclosed nor mentioned. Therefore, no structure to keep the “first transport mechanism” in a clean condition is disclosed, or mentioned, or suggested by the prior art.

Regarding claims 11-15, the substrate processing apparatus of claim 11 comprises the first transport mechanism and the second transport mechanism.

Since the first transport mechanism holds the substrate when the substrate is carried in and out, it is important to keep the contacting part clean, i.e., the location where the first transport mechanism contacts the substrate.

Thus, the second transport mechanism of claim 11 serves “to receive substrates prior to the liquid chemical process from said first transport mechanism in said first processing chamber, to carry substrates to said liquid chemical processing part; to carry substrates being liquid chemical processed to said second processing chamber through said third opening, to sequentially carry substrates to said pure water processing part and said dry processing part, and also to transfer substrates being dry processed to said first transport mechanism in said second processing chamber”.

With the substrate processing apparatus of claim 11, the substrates are transferred, prior to the liquid chemical process (the substrates in dry condition), from the first transport mechanism to the second transport mechanism, and the substrates being dry processed are transferred from the second transport mechanism to the first transport mechanism. This means that the first transport mechanism does not contact any substrate with liquid chemical or pure water thereon. Thus, adherence of liquid chemical and pure water to the first transport mechanism is prevented,

and the first transport mechanism can be kept clean. Also, prevention of adherence of liquid chemical and pure water also prevents adherence of particles to the first transport mechanism.

Hasegawa Koji discloses a transport mechanism 9 which is movable towards plural processing chambers 12-15. This transport mechanism 9 of Hasegawa Koji receives a substrate 2 in a wet condition from lifter equipment 31. It seems that the transport mechanism 9 cannot be kept in clean condition, unlike the present invention, because liquid such as pure water adheres to the transport mechanism 9 of Hasegawa Koji.

In Shinbara and Takano, a transport mechanism corresponds to the “first transport mechanism” of the present invention is not disclosed nor mentioned. Therefore, a structure to keep the “first transport mechanism” in clean condition is not disclosed nor mentioned.

Regarding claims 21-25, the substrate processing apparatus of claim 21 comprises the first transport mechanism, the second transport mechanism, the third transport mechanism and the fourth transport mechanism.

Since the first transport mechanism holds the substrate when the substrate is carried in and out, it is important to keep the contacting part clean, i.e., the location where the first transport mechanism contacts the substrate.

Thus, the third transport mechanism of claim 21 serves “to receive substrates prior to the liquid chemical process from said first transport mechanism in said first processing chamber, to carry substrates to said liquid chemical processing part, and also to transfer substrates being liquid chemical processed to said second transport mechanism”, and the fourth transport mechanism of claim 21 is “to receive substrates from said second transport mechanism in said second processing chamber, to sequentially carry substrates to said pure water processing part and said dry processing part, and also to transfer substrates being dry processed to said first transport mechanism”.

With the substrate processing apparatus of claim 21, the substrates are transferred, prior to the liquid chemical process (the substrates in dry condition), from the first transport mechanism to the third transport mechanism, and the substrates being dry processed are transferred from the fourth transport mechanism to the first transport mechanism. This means that the first transport mechanism does not hold substrate with liquid chemical or pure water.

Thus, adherence of liquid chemical and pure water to the first transport mechanism is prevented, and the first transport mechanism can be kept in clean condition. Also, prevention of adherence of liquid chemical and pure water also prevents adherence of particles to the first transport mechanism.


Hasegawa Koji discloses a transport mechanism 9 which is movable towards plural processing chambers 12-15. This transport mechanism 9 of Hasegawa Koji receives a substrate 2 in a wet condition from lifter equipment 31. It seems that the transport mechanism 9 cannot be kept in clean condition, unlike the present invention, because liquid such as pure water adheres to the transport mechanism 9 of Hasegawa Koji.

In Shinbara and Takano, a transport mechanism corresponds to the “first transport mechanism” of the present invention does not disclosed nor mentioned. Therefore, a structure to keep the “first transport mechanism” in clean condition does not disclosed nor mentioned.

On the basis of foregoing remarks and in view of the prior art of record, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

Respectfully submitted,

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